

Remarks

This responds to the Office Action mailed on September 15, 2004 and the documents cited therewith. Claim 68 is amended, claims 1-62, 80, 109-110, 113-116 and 122-129 are canceled; as a result, claims 63-67, 69-79, 81-108, 111-112 and 117-121 are now pending in this application. The amendment to claim 68 is to clarify the subject matter that Applicants regards as the invention. The examiner is requested to note that the amendment of claim 68 as presented herein does not narrow the scope of the claim. Accordingly, Applicants are entitled to a full range of equivalents upon issuance of the instant claims. No new subject matter is added.

Rejections under 35 U.S.C. §112

Claims 68 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. The Examiner asserts that the “compound fo formula (I)” is unclear. To the extent that this rejection may be maintained with respect to the pending claims, it is respectfully traversed.

Applicants have amended the term “compound fo formula (I)” to recite -chain extender to clarify the subject matter regarded as the invention. It is respectfully requested that the rejection under 35 U.S.C. § 112, be withdrawn.

Rejection under 35 U.S.C. §103

Claims 63-79, 81-108, 111, 112 and 117-121 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Szycher et al. U.S. 5,863,627 (the '627 patent) or WO 98/13405 or JP 4-248826, each in view of Li et al. U.S. 5,221,724 (the '724 patent) and Ohtaki et al. U.S. 5,861,085 (the '085 patent). This rejection is respectfully traversed.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not establish a *prima facie* case, the Applicants is under no obligation to submit evidence of non-obviousness. M.P.E.P. §2142. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or

motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. M.P.E.P. §2142.

In the Office Action the Examiner conceded that none of the primary documents (Szycher '627, WO 98/13405, and JP 4-248826) “disclose the specific use of an amine functional siloxane as a chain extender” (Official Action, page 3) as in the present invention. However, the Examiner asserts that Li '724 discloses the use of compounds of amine functional polysiloxane compounds which overlap Applicants claimed soft and hard segment compounds in polyurethane-ureas. In addition, the Examiner asserts that Ohtaki discloses amino functional tetraorganodisiloxanes as reactants with polyurethanes.

Szycher et al. U.S. 5,863,627 (the '627 patent): as noted above, the Examiner acknowledges that there is no mention of the use of amine functional siloxanes as chain extenders in the '627 patent. The chain extenders disclosed are short diamines of diols (See column 4, lines 59-67.), *i.e.*, non-siloxanes, well known to polyurethane chemists. As discussed above, the use of a siloxane as a chain extender in the hard segment as well as in the soft segment of the claimed polyurethane urea structure is not disclosed or suggested the disclosure of the '627 patent.

JP 4-248826 (abstract): Based on the information in the abstract, the amine functional siloxanes disclosed are used only in the soft segment in these formulations and not as a component in the hard segment. Again, this document fails to disclose the use of a amine functional siloxanes both as a chain extender and as a soft segment component of a polyurethane urea.

WO 98/13405: This document also fails to disclose the use of amine functional siloxanes as chain extenders. Furthermore, there is no teaching or suggestion of the use of siloxanes in both the hard and soft segments of polyurethanes.

Li et al. U.S. 5,221,724 (the '724 patent): This document discloses polyurethanes having a siloxane soft segment. However, there is no teaching or suggestion to use amine functional siloxanes of appropriate molecular weights to form both soft and hard segment components within the same polyurethane structure. In contrast, the '724 patent discloses soft segments formed from a diisocyanate and an amine functional siloxane, and hard segments formed from chain extended diisocyanates using alkyl- or aryl-diols, or alkyl- or aryl-diamines as chain extenders. Thus, the '724 patent does not cure the deficiencies of any of the primary documents to permit one to arrive at the claimed compositions.

Ohtaki *et al.* U.S. 5,861,085 (the '085 patent). This document discloses the use of amino functional tetraorganodisiloxane as a modifier for synthetic resins generally, but not polyurethane ureas specifically as the Examiner indicates let alone the use of siloxanes in both the hard and soft segments. Similarly, the '085 patent fails to cure or complete the deficiency of any of the primary documents to permit one to arrive at the claimed compositions.

Accordingly, none of the cited documents {Szycher '627, WO 98/13405, or JP 4-248826; each in view of Li '724 and Ohtaki '085}, alone or in any combination, disclose or suggest all of the elements of the presently claimed invention. Specifically, none of these documents disclose or suggest the use of an amine functional siloxane compound of formula (I) as a chain extender in the hard segment as in compositions of the present invention. Additionally, none of these documents disclose or suggest polyurethane-urea compositions where both the soft segment and the hard segment contain a silicone containing macrodiamine compounds as claimed in the present invention. Thus, because these documents fail to provide all of the elements of the claimed invention they cannot provide the motivation to combine or provide any reasonable expectation of success in arriving at the present invention.

In particular, the Examiner's attention is directed to Example 1 which discloses a polyurethane urea consisting of amine functional siloxane segments forming both hard and soft segment components and having a high tear strength. The Examiner's attention is also directed to

Example 13 where the results of a sheep implant study exhibit the biostability and fatigue resistance of the polyurethane ureas of the present invention. Finally, Example 14 provides data on cyclic flex fatigue resistance which further illustrates the excellent fatigue resistance of the polyurethane ureas of the present invention. Applicants respectfully submit that these examples illustrate the unexpected advantages of the claimed polymers prepared using amine functional siloxanes in both the soft and hard segments to improve tear strength as well as fatigue resistance is not obvious from the cited references.

Accordingly, it is respectfully submitted that the claimed invention is not obvious over the cited documents taken alone or in an combination. Applicants respectfully request withdrawal of the rejection of the present claims under 35 U.S.C. § 103(a).

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney ((612) 373-6968) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

PATHIRAJA A. GUNATILLAKE ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER &
KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6968

Date March 15, 2005 By William F. Prout
William F. Prout, Ph.D.
Reg. No. 33,995

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 15th day of March, 2005.

PATRICIA A. HULTMAN

Name

Patricia A. Hultman

Signature